GP Batteries

Safety Data Sheet *Model No.:GP1604S*

IDENTITY (As Used on Label and List) GP1604S	Note: Blank spaces are not permitted if any item is not applicable or no information is available, the space must be marked to indicate that.

Section I – Information of Manufacturer

Manufacturer's Name GPI International Ltd.	Emergency Telephone Number
Address (Number, Street, City State, and ZIP Code) 7/F , Building 16W, 16 Science Park West Avenue Hong Kong Science Park,	Telephone Number for information 852-2484-3333
New Territories, Hong Kong	Date of prepared and revision
Issue Date Jan 01,2019	Signature of Preparer (optional)

Section II - Hazardous Ingredients / Identity Information

Hazardous Components:

Description:	Approximate % of total weight		CAS No.	Remarks
Mercury (Hg)	<1.0	ppm	7439-97-6	Impurity
Lead (Pb)	<1000	ppm	7439-92-1	Added in Zinc plate
Cadmium (Cd)	<10	ppm	7440-43-9	Impurity
Hexavalent Chromium (Cr^{6+})	<10	ppm	7440-47-3	Impurity
Polybrominated Biphenyls (PBBs)	N/A		\	
Polybrominated Diphenyl Ethers (PBDEs)	N/A		\	
Zinc Chloride ($ZnCl_2$)	2-10	Wt%	7646-85-7	
Ammonium Chloride (NH_4Cl)	0-10	Wt%	2125-02-9	
Manganese Dioxide (MnO_2)	25-35	Wt%	1313-13-9	
Zinc (Zn)	10-20	Wt%	7440-66-6	
Acetylene Black	5-15	Wt%	1333-86-4	

Section III - Physical / Chemical Characteristics

Boiling Point N.A.	Specific Gravity (H_2O=1) N.A.
Vapor Pressure (mm Hg) N.A.	Melting Point N.A.
Vapor Density (AIR=1) N.A.	Evaporation Rate (Butyl Acetate) N.A.
Solubility in Water N.A.	
Appearance and Odor Prismatic Shape, odorless	

Section IV – Hazard Classification

Classification

N.A.

Section V – Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (Materials to Avoid)

Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI - Health Hazard Data

Route(s) of Entry	Inhalation?	Skin?	Ingestion?
	N.A.	N.A.	N.A.

Health Hazard (Acute and Chronic) / Toxiclogical information

In case of electrolyte leakage, skin will be itchy when contaminated with electrolyte.

In contact with electrolyte can cause severe irritation and chemical burns.

Inhalation of electrolyte vapors may cause irritation of the upper respiratory tract and lungs.

Section VII – First Aid Measures

First Aid Procedures

If electrolyte leakage occurs and makes contact with skin, wash with plenty of water immediately.

If electrolyte comes into contact with eyes, wash with copious amounts of water for fifteen (15) minutes, and contact a physician.

If electrolyte vapors are inhaled, provide fresh air and seek medical attention if respiratory irritation develops. Ventilate the contaminated area.

Section VIII - Fire and Explosion Hazard Data

Flash Point (Method Used)	Ignition Temp.	Flammable Limits	LEL	UEL
N.A.	N.A.	N.A.	N.A.	N.A.

Extinguishing Media

Carbon Dioxide, Dry Chemical or Foam extinguishers

Special Fire Fighting Procedures

N.A.

Unusual Fire and Explosion Hazards

Do not dispose of battery in fire - may explode.

Do not short-circuit battery - may cause burns.

Section IX – Accidental Release or Spillage

Steps to Be Taken in Case Material is Released or Spilled

Batteries that are leakage should be handled with rubber gloves.

Avoid direct contact with electrolyte.

Wear protective clothing and a positive pressure Self-Contained Breathing Apparatus (SCBA).

Section X – Handling and Storage

Safe handling and storage advice

Batteries should be handled and stored carefully to avoid short circuits.

Do not store in disorderly fashion, or allow metal objects to be mixed with stored batteries.

Never disassemble a battery.

Do not breathe cell vapors or touch internal material with bare hands.

Keep batteries between -30°C and 35°C for prolong storage.

Section XI – Exposure Controls / Person Protection

Engineering Control

No engineering measure is necessary during normal use. If internal cell materials are leaked, the information below will be useful.

Exposure Control Limit

Common Chemical Name / General Name	OSHA PEL	ACGIH TLV
Manganese compounds (as Mn)	(Celling) 5 mg/m^3	TWA 0.02 mg/m^3 (resp.)
Nickel, metal and insoluble compounds	(as Ni) TWA 1 mg/m^3	Elemental: 1.5mg/m^3 (IHL); Insoluble inorganic compounds: 0.2mg/m^3 (IHL)
Zinc oxide	Respirable fraction: 5 mg/m^3	Respirable fraction: 2 mg/m^3
Graphite	Respirable fraction: 5 mg/m^3	2 mg/m^3 (all forms except fibers)
Carbon black	3.5 mg/m^3	3.5 mg/m^3 (IHL)

TWA – Time Weighted Average
ACGIH TLV: American Conference of Governmental Industrial Hygienists Threshold Limit Value
OSHA PEL: Occupational Safety & Health Administration Permissible Exposure Limit

Section XII – Ecological Information

N.A.

Section XIII – Disposal Method

Dispose of batteries according to government regulations.

Section XIV – Transportation Information

GP primary carbon zinc cylindrical cells/batteries are considered to be "dry cell" batteries and are unregulated for purposes of transportation by the U.S. Department of Transportation (DOT), International Civic Aviation Administration (ICAO), International Air Transport Association (IATA), the International Maritime Organization (IMO). (Carbon zinc batteries are not regulated for transportation as "DANGEROUS GOODS" under the IATA Dangerous Goods Regulations 60th edition 2019.)

IATA DGR: Special Provision A123: "Example of such batteries are: akali-manganese, zinc carbon. and nickel-cadmium batteries. Any electrical battery…having the potential of a dangerous evolution of heat must be prepared for transport as to prevent (a) a short-circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals.) is forbidden from transport; and (b) accidental activation. The words "Not Restricted" and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6 when an Air Waybill is issued.

EU: As primary carbon zinc cells/batteries are not explicitly mentioned in RID/ADR, there are no special Dangerous Goods shipment requirements for these products.

USA: 49 CFR § 172.102 Special Provision 130: "For other than dry battery specifically covered by another entry in the § 172.101 Table, "Batteries, dry" are not subject to the requirements of this subchapter when they are securely packaged and offered for transportation in a manner that prevents the dangerous evolution of heat (for example, by the effective insulation of exposed terminals) and protects against short circuits."

Section XV – Regulatory Information

Special requirement be according to the local regulatories.

Section XVI – Other Information

The data in this Material Safety Data Sheet relates only to the specific material designated herein.

Section XVII – Measures for fire extinction

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.